

# NOAA Marine Science Career - Case Studies

## Marion Ano

### TNC Marine Fellow

*Marion Ano is an Assistant Marine Coordinator for the The Nature Conservancy, Hawaii. The Nature Conservancy (TNC) is a conservation organization which works around the world to protect ecologically important lands and waters.*

Marion grew up in Hawai'i and she spent a lot of time playing in the ocean, which later inspired her to work in the marine environment. Her great-grandfather was a fish and game warden for the island of O'ahu, he passed on the knowledge of the islands and the ocean to her father. As she grew up and became more aware of the issues facing Hawaii's unique environments, she remembered the stories from her father about her great-grandfather's lessons of being a responsible environmental steward and she wanted to learn more.



Upon graduating from High School, she went to the University of Washington and received a degree in Geological Sciences. Then she came back to Hawaii and worked as a Science Laboratory Assistant at Hawaii Pacific University, a science teacher at **Paepae o Heeia** for two years, and then taught fishpond management in **Molokai**. Then in 2008, she began her two year fellowship with The Nature Conservancy to learn the ropes of marine conservation in Hawaii. During this time her mentors at **Paepae o Heeia** and **Ka Honua Momona** (**Hi'ilei Kawelo, Mahina Paishon, Anuenue Punua, Noelani Yamashita, Uncle Mervin Dudoit, and Manuel Mejia**) inspired her to pursue Marine Conservation as a career and to bridge the gap between balancing the needs of people and caring for our marine environment.



Right now she has been working on two projects with the Nature Conservancy: The first project involves alien algae removal and the second project uses complex computer programs to model what would happen to the levels of water runoff in the He'eia watershed if you did different types of restoration activities.

**Project 1:** Marion works with a local organization called **Mālama Maunalua** to help teach a lab section of a Kapiʻolani Community College Biology class to remove algae and collect data within 3 plots (marked areas). She helps the students learn about invasive species and the scientific process while collecting data. The cool thing is the data they collect can help scientists with the Nature Conservancy and The State of Hawaii learn about what happens when the invasive algae is removed so they can plan future projects. Marion's favorite thing about the alien algae project is that it teaches the students, **'A'ohe pau ka 'ike i ka hālau ho'okahi**, (translation: all knowledge is not taught in one school), one learns from many sources. Marion tells us, in marine conservation you have to work with many different people, who all know a lot of different things, and each person holds a piece of the puzzle to help protect our lands and sea.



**Project 2:** The computer project using Geospatial Information Systems or GIS helps her make computer models of a watershed to help managers, scientists, and community members decide where to place restoration efforts: **lo'i** (taro fields), restored native wetlands and restored loko wai (natural freshwater ponds) for raising and restoring anadromous and freshwater native fish species. Although this project involves sitting in front of a computer for long periods of time, she likes that she can use technology to restore marine and coastal habitats using information from scientists and indigenous knowledge from local Hawaiian practitioners.

**What can you do?** You may wonder. Well Marion told us volunteering is a great way to get to know people in the field of marine conservation, and figure out what really interests you. "Get involved in one of the great projects that help protect and care for Hawaii's wetland ecosystems in your area or start a project in your own ahupua'a or watershed". The real obstacle for Marion during her experience has been time, because there are so many things she is interested in participating in or supporting, but she says "you have to focus your work to make a meaningful contribution in this field". But once you find what you are interested in there are a lot of passionate and dedicated people that will help you along the way.